

Exhibit 68

From: Keith Allred
Sent: Monday, May 16, 2011 9:38 AM
To: 'info@fusion-DLS.com'
Subject: NOTICE OF COMPLAINT

NOTICE OF FILING OF COMPLAINT IN U.S. DISTRICT COURT

FUSION DENTAL LABORATORY SOLUTIONS, INC.
6950 ALMADEN EXPRESSWAY #137
SAN JOSE CA 95120
AGENT FOR SERVICE OF PROCESS: REX HO
AGENT ADDRESS: 6950 ALMADEN EXPRESSWAY #137
AGENT CITY, STATE, ZIP: SAN JOSE CA 95120

COMPLAINT SEEKING DAMAGES AND INJUNCTIVE RELIEF FOR FEDERAL TRADEMARK INFRINGEMENT, FEDERAL TRADEMARK DILUTION, FALSE DESIGNATION OF ORIGIN, COMMON LAW TRADEMARK INFRINGEMENT, COMMON LAW UNFAIR COMPETITION, AND VIOLATION OF THE CALIFORNIA BUSINESS & PROFESSIONS CODE § 17200 (UNFAIR COMPETITION) AND § 17500 (FALSE ADVERTISING)

SUMMARY: AS A RESULT OF DEFENDANT'S INFRINGEMENT OF GLIDEWELL'S REGISTERED MARKS, GLIDEWELL HAS INCURRED DAMAGES IN AN AMOUNT TO BE PROVEN AT TRIAL. DEFENDANT'S INFRINGEMENT OF GLIDEWELL'S REGISTERED MARKS IS DELIBERATE, WILLFUL, FRAUDULENT AND WITHOUT ANY EXTENUATING CIRCUMSTANCES, AND CONSTITUTES A KNOWING USE OF GLIDEWELL MARKS AND AN EXCEPTIONAL CASE WITHIN THE MEANING OF LANHAM ACT SECTION 35, 15 U.S.C. § 1117. GLIDEWELL IS THEREFORE ENTITLED TO RECOVER THREE TIMES THE AMOUNT OF ITS ACTUAL DAMAGES AND THE ATTORNEYS' FEES AND COSTS INCURRED IN THIS ACTION, AND PREJUDGMENT INTEREST. DEFENDANT HAS ENGAGED IN AND CONTINUES TO ENGAGE IN UNFAIR COMPETITION BY USING THE GLIDEWELL MARK, WITH THE INTENTION OF INTERFERING WITH AND TRADING ON THE BUSINESS REPUTATION AND GOODWILL ENGENDERED BY GLIDEWELL THROUGH HARD WORK AND DILIGENT EFFORT. DEFENDANT'S WRONGFUL USE OF THE GLIDEWELL MARK IS DELIBERATE, WILLFUL, AND IN RECKLESS DISREGARD OF GLIDEWELL'S TRADEMARK RIGHTS, ENTITLING GLIDEWELL TO THE RECOVERY OF PUNITIVE DAMAGES AND PERMANENT INJUNCTIVE RELIEF ENJOINING DEFENDANT AND ALL OTHERS ACTING IN CONCERT WITH AND HAVING KNOWLEDGE THEREOF, FROM USING THE GLIDEWELL MARK, AND ANY SIMILAR TRADE NAME OR MARK OR VARIANT THEREOF, OR OTHER "GENERIC PLUS 'BRUX'" MARK, AS A TRADE NAME, TRADEMARK, SERVICE MARK, DOMAIN NAME, OR FOR ANY OTHER PURPOSE

Sincerely,

Keith Allred
Glidewell Laboratories

GL 241
(Page 39 of 99)



From: Keith Allred
Sent: Tuesday, April 19, 2011 10:59 AM
To: 'Fusion Dental Lab Solutions'
Subject: BRUXZir-Fusion DL 2nd Notice.doc

SECOND NOTICE OF TRADEMARK INFRINGEMENT

April 19, 2011

TRANSMITTED VIA E-MAIL, FAX AND DELIVERED BY U.S. MAIL

Attn: Legal Department
Fusion Dental Lab Solutions
1525 McCarthy Boulevard, Suite 1000
Milpitas, California 95035

UNITED STATES

Tel: 408-333-9690
Fax: 408-273-6837
www.fusion-DLS.com
email: info@fusion-DLS.com

I, the undersigned, state UNDER PENALTY OF PERJURY that:

- I am an agent authorized to act on behalf of the owner of certain intellectual property rights ("IP Owner");
- I have a good faith belief that the listings identified below (by url, etc.) offer items or contain materials that are not authorized by the IP Owner, its agent, or the law, and therefore infringe the IP Owner's rights; and
- The information in this notice is accurate.

Pursuant to federal law your company is liable for the illegal trademark infringing activity where you have received legally adequate notice of such activity. Direct and contributory trademark infringement arises out of promoting via *Lab Management Today* and on your website the advertisement of "Full Solid Bruxer Zirconia" crowns made in China for outsourcing and sale to dentists.

Your failure to remove the infringing material from your website and promotional materials represents an inducement to others to infringe the IP Owners property rights resulting in unfair business practices under California law and significant damages resulting from the persistent, willful, and intentional infringement of the BRUXZir® mark. Accordingly, you may be held liable for inducing the trademark infringing activity of others after you have been issued legally adequate notice.

Furthermore, this is the second notice that your company has received regarding this violation of the Trademark Statute: **You have been formally asked to stop**

using this trademark. Your lack of cooperation is blatant defiance and sheer disregard for US Federal Law.

If these violations of the Trademark Statute persist, we intend to press charges, and to pursue litigation against your company. **It is in your overall best interest to immediately cease and desist from using the term "BRUX" in connection with your mark. The best way for you to protect your interests overall is to stop using it altogether.**

In compliance with common practice this notice of infringement has been issued before litigation has been initiated against you and others. Since there is a likelihood of engaging your company in Intellectual Property litigation proceedings, we suggest that you immediately seek the advice of your attorney. You should immediately notify the hosting company of your website and dental laboratories that you outsource to that these violations are occurring. To preclude litigation against you and your hosting company and outsourcing clients you must ensure that your webmasters and outsource clients immediately cease and desist from infringing upon the IP Owner's rights—on your website and on the websites of your outsource clients—in connection with sales of products that infringe the BRUXZir® trademark. Please feel free to forward this message to your attorney for advice. Your attorney may also contact me via email, if you are interested in settling this matter amicably.

Sincerely,
KEITH D. ALLRED
Attorney for Glidewell Laboratories
4141 MacArthur Blvd.
Newport Beach, CA 92660
Tel 949-440-2683
Fax 949-440-2787
Email kallred@glidewelldental.com

From the Trademark website:

Word Mark	BRUXZIR
Goods and Services	IC 010, US 026 039 044, G & S: Dental bridges; Dental caps; Dental crowns; Dental inlays; Dental onlays; Dental prostheses. FIRST USE: 20090606, FIRST USE IN COMMERCE: 20090606
Standard Characters Claimed	
Mark Drawing Code	(4) STANDARD CHARACTER MARK
Serial Number	77761757
Filing Date	June 17, 2009
Current Filing Basis	1A
Original Filing Basis	1A
Published for Opposition	November 3, 2009
Registration Number	3739663
International Registration Number	1034335
Registration Date	January 19, 2010

GL 241

(Page 42 of 99)

Exhibit 68

-778-

Owner (REGISTRANT) James R. Glidewell, Dental Ceramic, Inc. DBA Glidewell Laboratories
CORPORATION CALIFORNIA Professional Services 4141 MacArthur Blvd. Newport Beach
CALIFORNIA 92660

Attorney of Record Keith D. Allred, Esq.

Type of Mark TRADEMARK

Register PRINCIPAL

Live/Dead Indicator LIVE

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(4) Previous communication -- SECOND NOTICE OF TRADEMARK INFRINGEMENT

From: Fusion Dental Lab Solutions [mailto:info@fusion-dls.com]
Sent: Friday, January 21, 2011 5:03 PM
To: Keith Allred
Subject: Re: Fusion Dental.doc

To Whom It May Concern,

No, it is not pronounced the same.

Regards,

Fusion Dental Lab Solutions
Tel: (408) 333-9690
Fax: (408) 273-6837

From: Keith Allred
Sent: Friday, January 21, 2011 4:58 PM
To: Fusion Dental Lab Solutions
Subject: RE: Fusion Dental.doc

Attn: Fusion Dental

It is pronounced the same isn't it?

Sincerely,

Keith Allred
Glidewell Laboratories
4141 MacArthur Blvd.
Newport Beach, CA 92660

(800) 854-7256
www.glidewell dental.com

From: Fusion Dental Lab Solutions [mailto:info@fusion-dls.com]
Sent: Friday, January 21, 2011 4:42 PM
To: Keith Allred
Subject: Re: Fusion Dental.doc

To Whom It May Concern,

There is no "confusing similarity". The words "zirconia", "bruxer", "solid", "full" are all generic terms.

Regards,

Fusion Dental Lab Solutions
Tel: (408) 333-9690
Fax: (408) 273-6837

From: Keith Allred
Sent: Friday, January 21, 2011 4:33 PM
To: Fusion Dental Lab Solutions
Subject: RE: Fusion Dental.doc

Attn: Fusion Dental

Fortunately for my client trademark infringement is based on "confusing similarity" of marks and services, and marks can be confusingly similar even if not identical. The best idea is for you to consult with your trademark attorney about it.

Sincerely,

Keith Allred
Glidewell Laboratories
4141 MacArthur Blvd.
Newport Beach, CA 92660
(800) 854-7256
www.glidewell dental.com

From: Fusion Dental Lab Solutions [mailto:info@fusion-dls.com]
Sent: Friday, January 21, 2011 3:49 PM
To: Keith Allred
Subject: Re: Fusion Dental.doc

To Whom It May Concern,

GL 241
(Page 44 of 99)

The words "zirconia", "bruxer", "solid", "full" are all generic terms. Bruxer is NOT Bruxzir, please do your research or look it up on the dictionary. For your information "again", BRUXER is a commonly generic used term of a "person" who grinds their teeth or a person with bruxism. Is "BruxZir" also a commonly generic used term of a person who grinds their teeth or a person with bruxism?

Regards,

Fusion Dental Lab Solutions
Tel: (408) 333-9690
Fax: (408) 273-6837

From: Keith Allred
Sent: Friday, January 21, 2011 11:42 AM
To: Fusion Dental Lab Solutions
Subject: RE: Fusion Dental.doc

**NOTICE Re: Infringement of Glidewell Laboratories' Trademark
BRUXZIR**

I am responding 21-Jan-2011 email below. I read your communication to be raising two issues which I will address in turn.

1. Assuming Full Solid Bruxer Zirconia is descriptive when applied to professional dental products, can those items be appropriated to one party's exclusive use? As you know, descriptive terms become exclusive trademarks when they acquire secondary meaning. Glidewell Laboratories has exclusively and extensively used the mark BRUXZIR in the dental industry. Unquestionably it has acquired secondary meaning, and it has the exclusive right to use the mark in the dental field, especially where Glidewell is catering to the same channels of trade.

2. Can Fusion Dental use the term if it is only using the term to describe its crowns and not as a trademark? It's a little late for that. You have confirmed in a written record below what already was abundantly clear: that Full Solid Bruxer Zirconia is claimed as the name for your goods, and not a descriptive term. The words "full" and "solid" and "zirconia" are, of course, the generic terms. Trademarks rights do, however, apply to the term BRUXER.

Under these circumstances, it is difficult to argue that Fusions Dental's continuing use of the mark is not willful trademark infringement. Nevertheless, unless it has to, Glidewell prefers resolving this in a business-to-business fashion without resort to the courts. If you are unwilling to promptly change the name of your full solid zirconia crowns, then we will have to go the litigation route.

Sincerely,

Keith Allred

Glidewell Laboratories

4141 MacArthur Blvd.
Newport Beach, CA 92660
(800) 854-7256
www.glidewelldental.com

From: Fusion Dental Lab Solutions [mailto:info@fusion-dls.com]
Sent: Friday, January 21, 2011 10:21 AM
To: Keith Allred
Subject: Re: Fusion Dental.doc

To Whom It May Concern,

The name of the crown is called Full Solid Bruxer Zirconia, which is the description of the type of crown we offer: A full solid bruxer zirconia crown for bruxers (patient of bruxism). Please read our advertisement precisely.

Regards,

Fusion Dental Lab Solutions
Tel: (408) 333-9690
Fax: (408) 273-6837

From: Keith Allred
Sent: Friday, January 21, 2011 10:05 AM
To: Fusion Dental Lab Solutions
Subject: RE: Fusion Dental.doc

NOTICE: TRANSMITTED VIA E-MAIL AND DELIVERED BY U.S. MAIL

I am pleased to represent Glidewell Laboratories in connection with its trademark and unfair competition matters. I have brought to your attention below that your company is currently marketing a full contour zirconia crown under the name BRUXER ZIRCONIA.

I explained to you that Glidewell has used the mark BRUXZIR in connection with full contour zirconia crowns. I also have informed you that Glidewell Laboratories owns the federal registration number for the mark. Like the Glidewell product, the Fusion product is also sold only to dentists and dental professionals.

Since both products are closely related and move in the identical marketing channels (to dentists) and the marks are virtually identical, there is little doubt that your firm's marketing of a crown under the mark BRUXER ZIRCONIA constitutes trademark infringement.

For the above reasons, we must insist that you immediately cease use of the infringing mark on all products, on your advertising and elsewhere. Should you not terminate use of the mark, Glidewell reserves its rights to take legal action to stop you from using the mark by

seeking an injunction to prevent the fabrication and/or importation of infringing goods or other relief as is deemed appropriate.

Sincerely,

Keith Allred
Glidewell Laboratories
4141 MacArthur Blvd.
Newport Beach, CA 92660
(800) 854-7256
www.glidewell dental.com

From: Fusion Dental Lab Solutions [mailto:info@fusion-dls.com]
Sent: Thursday, January 20, 2011 6:33 PM
To: Keith Allred
Subject: Re: Fusion Dental.doc

To Whom It May Concern,

For your information, the word "Bruxer" is a very common clinical term for a person with bruxism.

Regards,

Fusion Dental Lab Solutions
Tel: (408) 333-9690
Fax: (408) 273-6837

From: [Keith Allred](#)
Sent: Wednesday, January 19, 2011 3:27 PM
To: info@fusion-DLS.com
Subject: Fusion Dental.doc

Trademark Infringement – BruxZir® Zirconia (LIKELIHOOD OF CONFUSION)

January 19, 2011

TRANSMITTED VIA E-MAIL AND
DELIVERED BY U.S. MAIL

Fusion Dental Lab Solutions
1525 McCarthy Boulevard, Suite 1000
Milpitas, California 95035

Attn: President

Re: Infringement of Glidewell Laboratories' Trademarks – BruxZir®

The serious matter of your infringement of my client's proprietary property rights in connection with the unauthorized use Glidewell Laboratories' registered trademarks in your advertising has come to our attention.

Glidewell Laboratories has for years used the mark BRUXZIR both nationally and internationally to identify its dental laboratory goods and services in the US and its CE certified BruxZir® zirconia milling blanks in Europe. The company enjoys considerable good will associated with its use of the aforesaid mark.

Your promotion in *Lab Management Today* of Full Solid Bruxer Zirconia is using a similar mark where there is an appreciable likelihood of confusion and a palming off goods by an unauthorized substitution of one brand for the brand ordered, which in this instance is a deliberate misappropriation of intellectual capital for commercial purposes that is actionable unfair competition under California law (California Business and Professions Code §17200)

Under federal law, Trademark infringement is presumptively an unfair exploitation of the monopoly privilege that belongs to the owner of the mark. Infringement is a 'tarnishment' of the owner's mark and results in "brand confusion" and the likelihood of 'initial interest' confusion as to the actual identity of the source of the goods and services.

For the above reasons, we must insist that you immediately cease use of the infringing marks in your promotions and elsewhere. Should you not terminate use of the mark, Glidewell Laboratories reserves its rights to take legal action to stop you from using the mark by seeking an injunction, monetary relief, and attorney fees.

Please contact me, or have your attorney contact me, within ten days of receipt of this communication if you are unsure about the appropriate steps that you must take to avoid liability for your refusal to discontinue your use of the infringing marks.

Your prompt attention is appreciated.

KEITH D. ALLRED

Attorney for Glidewell Laboratories

4141 MacArthur Blvd.

Newport Beach, CA 92660

Tel 949-440-2683

Fax 949-440-2787

Email kallred@glidewelldental.com

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Exhibit 69

From: Keith Allred
Sent: Tuesday, August 07, 2012 3:01 PM
To: 'scott@dominionmillingcenter.com'
Subject: RE: BRUXZIR Infringement - OLD DOMINION

Scott, thank you for your prompt response. We certainly do appreciate your understanding in this matter. --Keith

From: scott@dominionmillingcenter.com [mailto:scott@dominionmillingcenter.com]
Sent: Tuesday, August 07, 2012 2:45 PM
To: Keith Allred
Subject: Re: BRUXZIR Infringement - OLD DOMINION

Howdy Keith!

A "Bruxzer" crown has existed for years and years, even before the use of Zirconia.

It is a restoration used for patient with the condition of "Bruxism", to avoid broken Porcelain and to extend the life of restoration.

Typically, it includes either a Metal Occlusal surface, or a Full Zirconia restoration. This is now taught in Medical Schools across the country.

Jim Glidewell did not invent this condition, or terminology associated with restorations to treat such patients. I have Doctors prescriptions dating back Two decades with this term used.

My father (Crown and Bridge Professor Thomas Hudson DDS age 71) and brother (Paul Hudson DDS age 35) were taught to use this term in Dental School at MVC in Virginia, in regards to a restoration involved with a patient that has Bruxism. I believe your argument is not valid.

However, We will gladly change our product name to "FCZ" (Full Contour Zirconia). It is no problem! You are welcome.

Have a nice day!

Scott

-----Original Message-----

From: Keith Allred [mailto:kallred@glidewelldental.com]
Sent: Tuesday, August 7, 2012 04:52 PM
To: scott@dominionmillingcenter.com
Subject: BRUXZIR Infringement - OLD DOMINION

NOTICE OF TRADEMARK INFRINGEMENT

GL 241
(Page 50 of 99)



August 7, 2012

TRANSMITTED VIA EMAIL AND
DELIVERED BY U.S. MAIL

OLD DOMINION MILLING CORP.
5700 Old Richmond Ave. G-20
Richmond, VA 23226

PHONE: 804.285.0777

scott@dominionmillingcenter.com

Attn: Scott Hudson, Owner

**Re: Infringement of Glidewell Laboratories? BruxZir? Trademarks, Misbranding,
Violation of Federal Acts and State Statutes and Unfair Business Practices**

The serious matter of your infringement of my client's proprietary property rights in connection with the unauthorized use Glidewell Laboratories? registered trademarks on your invoices (see ATTACHMENT ?A,? below) has come to our attention.

Glidewell Laboratories has for years used the mark BRUXZIR both nationally and internationally to identify its dental laboratory goods and services in the US and its CE certified BruxZir? zirconia milling blanks in Europe. The company enjoys considerable good will associated with its use of the aforesaid mark.

The promotion of dental laboratory services by your lab of ?Bruxzer? is using a similar mark that creates an appreciable likelihood of confusion and a palming off goods by an unauthorized substitution of one brand for the brand ordered and a deliberate misappropriation of intellectual capital for commercial purposes that is actionable unfair competition under state and federal laws.

Under federal law, Trademark infringement is presumptively an unfair exploitation of the monopoly privilege that belongs to the owner of the mark. Infringement is a ?tarnishment? of the owner's mark and results in ?brand confusion? and the likelihood of ?initial interest? confusion as to the actual identity of the source of the goods and services.

For the above reasons, we must insist that you immediately cease use of the infringing mark in your promotions and elsewhere. Should you not terminate use of the mark Glidewell Laboratories reserves its rights to take legal action to stop you from using the mark and intellectual properties by seeking an injunction, monetary relief, and attorney fees.

Please contact me, or have your attorney contact me, within ten days of receipt of this communication if you are unsure about the appropriate steps that you must take to avoid liability for your refusal to discontinue your use of the infringing marks. Additionally, if you wish to be on the list of BruxZir? authorized dental laboratories, call Glidewell Direct.

Your prompt attention is appreciated.

Sincerely,
KEITH D. ALLRED
Attorney for Glidewell Laboratories
4141 MacArthur Blvd.
Newport Beach, CA 92660
Tel 949-440-2683
Fax 949-440-2787
Email kallred@glidewell dental.com

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-- ATTACHMENT ?A? --

Dominion Milling Center "DMC"
Div. of Old Dominion Dental Corp.
5700 Old Richmond Ave., Suite G-29
Richmond, VA 23226
Toll-free: 877-285-LAVA
Business: 804-285-MILL
E-mail: scott@dominionmillingcenter.com
Web Site: www.dominionmillingcenter.com
Contact: Scott Hudson

One Dominion Dental Corp
5700 Old Richmond Ave G-23
Richmond VA 23226
(804) 285-0777

Invoice

Page: 1
Invoice Number: 1226-1440
Invoice Date: 06/15/2012

Account ID: 490
Zinser Dental Lab
10875 Dover St
Suite 1000
Greenfield, CO 80621

Patient: Eremetz			
Qty	Products / Materials	Tooth No.	Amount
1.00	Bonding		\$38.95
Sub Total			\$38.95
Total Tax			\$0.00
Total:			\$38.95

Please contact Amedis with invoice and shipping
questions

One Dominion Dental Corp
5700 Old Richmond Ave G-23
Richmond VA 23226
(804) 285-0777

Invoice

Page: 1
Invoice Number: 1226-1440
Invoice Date: 06/15/2012

Account ID: 490
Zinser Dental Lab
10875 Dover St
Suite 1000
Greenfield, CO 80621

Patient: Jacobson, Keshon			
Qty	Products / Materials	Tooth No.	Amount
1.00	Bonding		\$15.95
1.00	Bonding		\$19.95
1.00	Shipping and Handling		\$4.95
Sub Total			\$39.85
Total Tax			\$0.00
Total:			\$39.85

Please contact Amedis with invoice and shipping
questions

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Exhibit 70

Dental BruxZir Zirconia Crown - BruxZir Solid Zirconia Blanks - Glidewell Direct Dental Zirconia Crown Lab Supplies

 **GLIDEWELL LABORATORIES** [HOME](#)

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BruxZir® Milling Blanks

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BruxZir® Milling Blanks are used for the production of full-contour zirconia crowns, bridges and implant crowns. Made from the highest quality zirconia powder, which is chemically and physically reprocessed to further reduce zirconia particle size and then shaped through a unique patent-pending process, BruxZir Milling Blanks produce a final restoration that exhibits maximum strength and translucent pearlescence.

Glidewell Laboratories manufactures BruxZir Milling Blanks to fit many popular milling systems. Blanks are available in four thicknesses (12 mm, 15 mm, 20 mm, and 25 mm) and are available for the following systems:

- *BruxZir HT Blank*, with straight edges. Use in BruxZir, Intelitek, Haas and Roeders milling machines.

[ORDER PRODUCTS](#)

GLIDEWELL DIRECT
888-303-3975 U.S.
888-278-0414 Canada

Glidewell Direct Shopping Cart available to U.S. customers only. Canadian customers: Call 888-278-0414 to order. International customers: At this time, we only ship to U.S./Canadian addresses.

[View Current Price List](#)

[ORDER NOW](#) [Policies & Warranty](#)

[PDF DOCUMENTS](#)

[BruxZir Solid Zirconia Business Integration Program](#)

[BruxZir Recycling Program](#)

[3Shape Technical Brochure](#)

[IOS FastScan Acquisition Scanner](#)

[BruxZir Study: Promising 1-year Results](#)

<http://www.glidewelldental.com/lab/products/bruxzir-blanks.aspx>

10/22/2012

Dental BruxZir Zirconia Crown - BruxZir Solid Zirconia Blanks - Glidewell Direct Dental Zirconia Crown Lab Supplies

- *BruxZir HT Blank (Wieland/Zeno Discs)*, with a 10 mm band machined around the circumference of the disc. Use in Wieland, i-core and Origin milling machines.
- *BruxZir HT Blank (Digital Dental Disc)*, with a 6 mm plastic band glued around the circumference of the disc. Use in Digital Dental Mills.

Store BruxZir Milling Blanks at room temperature and away from dust and contamination. Do not store in direct sunlight.

For more information about BruxZir, please visit www.bruxzir.com. To learn more about the benefits of becoming an Authorized BruxZir Lab, [click here](#).

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[Policies & Warranties](#)



©2012 Glidewell Laboratories
4141 MacArthur Blvd, Newport Beach, CA 92660
800-854-7256 USA | 888-278-0414 Canada



aveoTSD



BruxZir



Inclusive



FastScan



H/S Splint



Facebook



Twitter



iTunes

<http://www.glidewelldental.com/lab/products/bruxzir-blanks.aspx>

10/22/2012

Exhibit 71

Dental Zirconia CAD/CAM System - Complete BruxZir System - Glidewell Direct CAD/CAM System Dental Lab

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SERVICES | PRODUCTS | CAD/CAM SYSTEMS | EDUCATION | VIDEO GALLERY | LAB PERSPECTIVES | PARTNERSHIP PROGRAMS

BRUXZIR MILLING SYSTEM

3SHAPE SCAN & DESIGN SYSTEMS

IOS FASTSCAN ACQUISITION SCANNER

BruxZir® Mill

[Product](#) [Technical](#) [Studies](#) [Video](#)



The purpose-built, compact BruxZir Mill is custom built at the lab's California facilities. It features a full 4th axis, whisper-quiet 50,000 rpm NSK spindle, automatic four-tool changer, PC monitor and CAM software. Proven production capabilities include output of a single zirconia coping in as little as five minutes, and a full-contour crown in just nine minutes. Purchase of the mill comes with on-site installation and training, as well as production backup via outsource milling support in the event of a service outage. BruxZir™ Coloring Liquids and a step-by-step training DVD demonstrating the BruxZir restoration manufacturing process are also included with purchase of the unit.

BruxZir Milling System is capable of milling many products including:

ORDER PRODUCTS

GLIDEWELL DIRECT

888-303-3975 U.S.
888-278-0414 Canada

Glidewell Direct Shopping Cart available to U.S. customers only. Canadian customers: Call 888-278-0414 to order. International customers: At this time, we only ship to U.S./Canadian addresses.

Milling blanks, coloring liquids, cutting instruments & accessories

ORDER NOW

Policies & Warranty

PRICING OPTIONS

Configuration and Pricing Options

US Bank Business Equipment Finance

PDF DOCUMENTS

BruxZir Solid Zirconia Business Integration Program

<http://www.glidewelldental.com/lab/cad-cam-systems/bruxzir-milling-system.aspx>

10/22/2012

Dental Zirconia CAD/CAM System - Complete BruxZir System - Glidewell Direct CAD/CAM System Dental Lab

- Full-Contour Zirconia Crowns & Bridges
- Zirconia and Alumina Copings & Frameworks
- Hybrid Zirconia Implant Abutments with Titanium Insert
- Hybrid Zirconia Screw-Retained Implant Crowns with Titanium Insert
- PMMA Full-Contour Temporaries
- Full-Contour Wax for Gold Casting or Porcelain Pressing
- Wax Frameworks for Chromium Cobalt or Titanium Casting

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Exhibit 72



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Exhibit 75

DORLAND'S

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MEDICAL^{30th}

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DICTIONARY

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Brunnstrom method.....Bucephalus

Brunnstrom method (brun'ström) [Signe Brunnstrom, American physical therapist, 20th century] see under *method*.

Brun's frontal ataxia, syndrome (sign) (broonz) [Ludwig Bruns, German neurologist, 1858-1916] see under *ataxia* and *syndrome*.

Brunschwig operation (broon'shwig) [Alexander Brunschwig, American surgeon, 1901-1969] pancreatoduodenectomy.

Brunsting syndrome (broon'sting) [Louis A. Brunsting, Sr., American dermatologist, born 1900] see under *syndrome*.

brush (brush) tufts of bristles, hair, or other flexible materials set into a handle.

Haidinger's b. two conical brushlike images with apexes touching, seen on looking through a Nicol prism; used in determining visual function.

Ruffini's b. see under *corpuscle*.

stomach b. a brush used to cleanse and stimulate the mucous lining of the stomach.

Brushfield's spots (brush'feldz) [Thomas Brushfield, English physician, 1858-1937] see under *spot*.

Brushfield-Wyatt syndrome (brush'feld wi'et) [T. Brushfield; W. Wyatt, British physician, 20th century] see under *syndrome*.

brushite (brush'it) a nearly colorless type of dibasic calcium phosphate, found in rock phosphates and sometimes as a component of human dental calculus or renal calculi.

Bru-ton's agammaglobulinemia, disease (broo'tonz) [Ogden C. Bruton, American pediatrician, born 1908] see *X-linked agammaglobulinemia*, under *agammaglobulinemia*.

brux (bruks) to grind the teeth rhythmically or spasmodically; cf. *bruxism*.

bruxism (bruk'siz-əm) [Gr. *brychein* to gnash the teeth] involuntary, nonfunctional, rhythmic or spasmodic gnashing, grinding, and clenching of teeth (not including chewing movements of the mandible), usually during sleep, sometimes leading to occlusal trauma. Causes may be related to repressed aggression, emotional tension, anger, fear, and frustration. See also *bruxomania* and *clenching*.

centric b. bruxism characterized by clenching in centric occlusion. Called also *clamping habit* and *clenching habit*.

bruxomania (bruk'so-ma'ne-ə) [Gr. *brychein* + *mania*] bruxism occurring in the daytime, usually performed unconsciously.

Bryant's line, sign, traction, triangle (bri'ants) [Sir Thomas Bryant, English surgeon, 1828-1914] see under *line*, *sign*, and *traction* and see *iliotibial triangle* under *triangle*.

Bryce-Teach-er ovum (bris te'char) [Thomas Hastie Bryce, Scottish anatomist, 1862-1946; John Hammond Teacher, Scottish pathologist, 1869-1930] see under *ovum*.

Bryobia (bri-o'be-ə) a genus of spider mites. *B. praetiosa* is the clover mite or spinning mite, a species found on clover and sometimes greatly annoying humans.

Bryonia (bri-o'ne-ə) a genus of plants of the family Cucurbitaceae, all called *bryony*. They are poisonous to humans and other animals, containing bryonidin, bryonin, and other glycosides that cause diarrhea and sometimes convulsions. They were formerly used medicinally as strong cathartics.

bryonia (bri-o'ne-ə) [L., from Gr. *bryōnia*] the air-dried root of *Bryonia alba* or related species, which was formerly used as a strong cathartic for humans and other animals; toxic alkaloids causing diarrhea include bryonidin and bryonin.

bryoni-din (bri-o'ni-din) a toxic glycoside found in species of *Bryonia*, partially responsible for their cathartic effects.

bryoni-nin (bri-o'ni-nin) a toxic glycoside found in species of *Bryonia*, partially responsible for their cathartic effects.

BS Bachelor of Surgery; Bachelor of Science; breath sounds; blood sugar.

BSA body surface area.

B-scan see under *scan*.

BSF B lymphocyte stimulatory factor.

BSS Bernard-Soulier syndrome.

BTU British thermal unit.

bu-bo (bu'bo) [L., from Gr. *boubōn* groin] a tender, enlarged, and inflamed lymph node, particularly in the axilla or groin, due to such infections as plague, syphilis, gonorrhea, chancroid, lymphogranuloma venereum, and tuberculosis.

bullet b. the characteristic hard bubo of primary syphilis.

chancroidal b. a suppurating form accompanying or following chancroid; called also *virulent b.*

climatic b. lymphogranuloma venereum.

malignant b. the bubo of bubonic plague.

primary b. a bubo which is due to venereal exposure but which is not preceded by any visible lesion; called also *bubon d'emblée*.

syphilitic b. nontender, nonfluctuant, firm regional lymphadenopathy that follows the chancre of syphilis.

tropical b. lymphogranuloma venereum.

virulent b. chancroidal b.

bu-bon (bu-baw') [Fr.] bubo.

b. d'emblée (dahm-blā') [Fr. "at the first onset"] primary bubo.

bu-bon-ic (bu-bon'ik) [L. *bubonicus*] characterized by or pertaining to buboes; see also under *plague*.

bu-bono-cele (bu-bon'o-sel) [Gr. *boubōn* groin + *-cele*'] inguinal or femoral hernia forming a swelling in the groin.

bu-bon-u-lus (bu-bon'u-ləs) [L. "a small bubo"] a nodule or abscess along a lymphatic vessel, especially one on the dorsum of the penis.

buc-ca (buk'a) [L.] [TA] cheek: the fleshy portion of the side of the face, constituting the lateral wall of the oral cavity. Called also *mala*.

buc-cal (buk'al) [L. *buccalis*, from *bucca* cheek] pertaining to or directed toward the cheek. In dental anatomy, used to refer to the buccal surface of a tooth; see *buccal surface*, under *surface*. Cf. *labial*.

buc-cal-ly (buk'a-le) toward the cheek.

buc-ci-na-tor (buk'si-na'tor) [L. "trumpeter"] see under *musculus*.

bucc(o)- [L. *bucca* cheek] a combining form denoting relationship to the cheek.

buc-co-ax-i-al (buk'o-ak'se-əl) pertaining to or formed by the buccal and axial walls of a tooth cavity preparation.

buc-co-ax-i-o-cer-vi-cal (buk'o-ak'se-o-sər'vi-kəl) buccoaxiogenicival.

buc-co-ax-i-o-gin-gi-val (buk'o-ak'se-o-jin'ji-vəl) pertaining to or formed by the buccal, axial, and gingival walls of a tooth cavity; called also *buccoaxiocervical*.

buc-co-cer-vi-cal (buk'o-sər'vi-kəl) 1. pertaining to the cheek and neck. 2. pertaining to the buccal surface of the neck of a posterior tooth. 3. buccogingival.

buc-co-clu-sal (buk'o-kloo'zəl) 1. pertaining to buccoclusion. 2. bucco-occlusal.

buc-co-clu-sion (buk'o-kloo'zhən) malocclusion in which the dental arch or a quadrant or group of teeth is buccal to the normal.

buc-co-dis-tal (buk'o-dis'təl) distobuccal.

buc-co-gin-gi-val (buk'o-jin'ji-vəl) 1. pertaining to the cheek and gingiva. 2. pertaining to or formed by the buccal and gingival walls of a tooth cavity preparation.

buc-co-glos-so-phar-yn-gi-tis (buk'o-glos'o-far'in'ji-tis) inflammation involving the cheek, tongue, and pharynx.

b. sic'ca inflammation and dryness of the buccal mucosa, tongue, and pharynx. Cf. *Sjögren's syndrome*, under *syndrome*.

buc-co-la-bi-al (buk'o-la'be-əl) pertaining to the cheek and lip.

buc-co-ling-gual (buk'o-ling'gwəl) 1. pertaining to the cheek and tongue. 2. pertaining to the buccal and lingual surfaces of a posterior tooth.

buc-co-ling-gual-ly (buk'o-ling'gwə-le) from the cheek toward the tongue.

buc-co-max-il-lary (buk'o-mak'si-lar'e) 1. pertaining to the cheek and maxilla. 2. communicating with the buccal cavity and the maxillary sinus, as a buccomaxillary fistula.

buc-co-me-si-al (buk'o-me'ze-əl) pertaining to or formed by the buccal and mesial surfaces of a tooth, or the buccal and mesial walls of a tooth cavity.

buc-co-occlu-sal (buk'o-o-kloo'zəl) pertaining to or formed by the buccal and occlusal surfaces of a tooth.

buc-co-phar-yn-go-al (buk'o-fə-rin'je-əl) pertaining to the mouth and pharynx.

buc-co-place-ment (buk'o-plās'ment) displacement of a tooth toward the cheek.

buc-co-pul-pal (buk'o-pul'pəl) pertaining to or formed by the buccal and pulpal walls of a tooth cavity.

buc-co-to-my (buk-os'ta-me) an old method of treating cribbing in horses, consisting of the surgical creation of permanent buccal fistulae.

buc-co-ver-sion (buk'o-var'zhən) the position of a tooth which lies buccally to the line of occlusion.

Buceph-a-lus (bu-sef'a-ləs) a genus of trematodes. *B. papillo'sus* is parasitic in the stomach and intestines of freshwater fish.

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BOUCHER'S

Clinical Dental Terminology

*A Glossary of Accepted Terms
in all Disciplines of Dentistry*

Thomas J. Zwemer, D.D.S., M.S.D., F.A.C.D., F.I.C.D.

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1st Edition:

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border

39

bronchiartia

derlying or adjacent tissues to prevent the passage of air or other substances.

b. structures The oral structures that bound the borders of a denture.

b. tissues, movement. The action of the muscles and other structures adjacent to the borders of a denture.

boutons terminaux See end-feet.

Bowen's disease See carcinoma in situ.

box, light See illuminator.

boxing The building up of vertical walls, usually in wax, around an impression to produce the desired size and form of the base of the cast.

b. strip See strip boxing.

brachycephalic (brāk'ē-sē-fāl'ik) Descriptive term applied to a broad, round head having a cephalic index of more than 80.

brachygnathia (brāk'ig-nā-thē-ah) (bird-face, micrognathia) Marked underdevelopment of the mandible. See also retrognathism.

bracing Resistance to the horizontal components of masticatory force.

bracket A small metal attachment fixed to a band that serves as a means of fastening the arch wire to the band.

bradycardia (brād-ē-kar'dē-ah) Abnormal slowness of the heart as evidenced by a slowing of the pulse rate (under 50 beats/minute).

bradydiastole (brād'ē-dī-ās'tō-lē) Abnormal prolongation of the diastole.

bradykinin One of a number of plasma kinins, a potent vasodilator; one of the physiologic mediators of an anaphylaxis reaction.

brachydactyly Abnormal shortness of the fingers, usually associated with some congenital syndrome.

bradypnea (brād'ē-nē'ah) Abnormal slowness of breathing.

bradythesia (brād'ē-thē'zē-ah) Slowness or dullness of perception.

brain, electrical activity of Electrical energy that can be observed as waves with electroencephalographic equipment. These rhythms and patterns have been organized into a system that imputes values for the state of health and disease. Electrical evidence of brain activity of the cerebral cortex reveals that different potential patterns are produced by different states of mental activity (e.g., tension, mental work, sleep).

brainstem The part of the brain, presumably the oldest part phylogenetically, in which are located centers for many simple but basically important reactions within the nervous system. The brainstem includes the primitive forebrain, the midbrain, and the hindbrain.

branchial nerve See nerve, branchial.

Branemark technique See osseointegration.

breach of contract See contract, breach of.

break-even point The level of patient visits or net reve-

nues at which the revenues for a period are equal to the expenses incurred in that period.

breath Air inhaled and exhaled in respiration.

b., bad (offensive) See halitosis.

breathing, mouth The process of inspiration and expiration of air primarily through the oral cavity. It is commonly seen in nasal conditions, such as deviated septum, hypertrophied adenoids, and allergies, and may produce excessive drying of the oral mucosa with a tendency to gingival hyperplasia.

bregma (brēg'mah) The point at which sagittal and coronary sutures meet.

Breuer's reflex See reflex, Hering-Breuer.

bridge Colloquial expression for a fixed partial denture. See denture, partial, fixed.

b., cantilever See denture, partial, fixed, cantilever.

b., fixed See denture, partial, fixed.

b., removable A colloquial expression for a removable partial denture. See also denture, partial, removable.

b. splint See splint, fixed.

Brill-Symmers disease See lymphoma, giant follicular.

Brinell hardness number See number, Brinell hardness.

Brinell hardness test See test, Brinell hardness.

brittle Friable; technically, a brittle material is one in which the proportional limit and ultimate strength are close together in value. See also ductility.

broach An instrument with numerous protruding barbs from a metal shaft. It is generally used to engage the dental pulp for extirpation.

Endodontic broach

b., barbed See broach.

b. holder An instrument similar to a pin vise used to hold a broach.

b., pathfinder See broach, smooth.

b., smooth (pathfinder, pathfinder broach) An instrument used for locating the orifice of a root canal and exploring the canal to determine the accessibility of the root end.

Broders' classification See index, Broders'.

Broders' index See index, Broders'.

bromism (brō'mīzm) The toxic state induced by excessive exposure to or ingestion of bromine or bromine-containing compounds.

bromopnea (brōm'ahp-nē'ah) See halitosis.

bronchia (brōng'kē-ah) Bronchial tubes smaller than bronchi and larger than bronchioles.

bronchiartia (brōng'kē-ark'shē-ah) The stenosis of a bronchial tube.

bronchiectasis

40

bulia

bronchiectasis (brōng'kē-ēk'tah-sīs) A chronic disease characterized by dilation of the bronchi and bronchioles, clinically recognizable by fetid breath and purulent matter; dilation of the bronchi, either local or general.

bronchiocoele (brōng'kē-ō-sēl") A dilation or swelling of a branch smaller than a bronchus.

bronchiole (brōng'kē-ōl) A terminal division of a bronchium.

bronchium (brōng'kē-ūm) One of the subdivisions of a bronchus.

bronchoconstriction (brōng'kō-kahn-strīk'shūn) The reduction of the caliber of the bronchi.

bronchodilation (brōng'kō-dī-lā'shūn) The dilation of a bronchus; the operation of dilating a stenosed bronchus.

bronchodilator (brōng'kō-dī-lā'tor) A drug that dilates, or expands, the size of the lumina of the air passages of the lungs by relaxing the muscular walls.

bronchospasm (brōng'kō-spāzm) A spasmodic contraction of the muscular coat of the bronchial tubes, such as occurs in asthma.

bronchostenosis (brōng'kō-stē-nō'sīs) Stenosis of the bronchi; bronchiarctia.

Brooke's tumor See epithelioma adenoides cysticum.

brown pellicle See pellicle, brown.

bruise In medical jurisprudence a contusion; an injury made on the flesh of a person by an instrument without destroying its continuity, i.e., without breaking the skin.

bruit (brōt) Extracardiac blowing sound heard at times over peripheral vessels; generally denotes cardiovascular disease.

brush, polishing An instrument consisting of natural, synthetic, or wire bristles, mounted on a mandrel or in a hub to fit on a lathe chuck; used to carry abrasive or polishing media to polish teeth, restorations, and prosthetic appliances.



Brush used to polish groove

b., bristle polishing A polishing brush with natural or synthetic bristles.

b., wheel polishing A polishing brush with bristles mounted like spokes of a wheel.

b., wire polishing A polishing brush with bristles of wire, usually steel or brass.

brushing See abrasion, denture.

bruxism (brūk'sīzm) The involuntary gnashing, grinding, or clenching of teeth. It is usually unconscious, whether the individual is awake or asleep; often associated with fatigue, anxiety, emotional stress, or fear; and frequently triggered by occlusal irregularities, usually resulting in abnormal wear patterns on the teeth, periodontal breakdown, or joint or neuromuscular problems.

BSP See test, Bromsulphalein.

bubo (bū'bō) A lymph node that is enlarged secondary to an infection. The process may lead to suppuration; seen in primary syphilis, chancroid, plague, malaria, and other infectious processes.

buccal (būk'ūl) Pertaining to or adjacent to the cheek.

b. aspect See aspect, buccal.

b. contour See contour, buccal.

b. flange See flange, buccal.

b. notch See notch, buccal.

b. shelf See shelf, buccal.

b. splint See splint, buccal.

b. surface See surface, buccal.

b. tube See tube, buccal.

b. vestibule See vestibule, buccal.

buccoduction (būk'ō-kloo'zhūn) An occlusion in which the dental arch or group of teeth is buccal to the normal position.

buccolingual relationship See relationship, buccolingual.

buccolingual stress See stress, buccolingual.

buccoconversion (būk'ō-ver'zhūn) Any deviation from the normal line of occlusion toward the cheeks.

buck knife See knife, buck.

buckling The crowding of anterior teeth in the dental arch.

budget plan A method of financing dental accounts in which arrangements are made for the patient to pay a series of small amounts on his account, usually over a period of 12 to 18 months.

buffer Any substance in a fluid that tends to lessen the change in hydrogen ion concentration, which otherwise would be produced by adding acids or alkalis.

bug An error in a computer program.

bulb, speech See aid, speech, prosthetic, pharyngeal section.

bulimia Repeated secretive bouts of excessive eating followed by self-induced vomiting, purging, and anorexia, usually accompanied by feelings of guilt, depression, and self-disgust. Oral signs may include decalcification of the lingual aspect of the teeth.

bulia (būl'ah) A circumscribed, elevated lesion of the

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39 Buccal

Boxing

Matrix of wax placed around an impression or other dental record to prevent the gypsum (stone or plaster) from scattering. It is done to preserve the accuracy of the impression and to save on the use of materials.

B Point
Brachycephalic

Anthropometric term used in orthodontics for describing a face that is wider than average.

Bracing

Resistance to horizontal or lateral force.

Bracing Arm

On a removable partial denture it prevents lateral movement of the tooth (see *Reciprocating Clasp Arm*).

Bracket

Orthodontic attachment used as a means of transmitting forces from archwires and/or accessories such as elastic traction or headgear to the tooth to cause tooth movement. Brackets are usually fabricated from stainless steel and are either soldered or welded to bands or bonded directly to the surfaces of teeth. (See *Appliance*.)

Bremsstrahlung

Release of a photon of x-ray energy by a bombarding electron slowed and bent off course by an atom. It is the main source of x-rays in the dental x-ray machine.

Bridge

See *Denture, Fixed Partial*.

Brinell Hardness
Number

See *Hardness*.

Broach

Intracanal instrument with or without barbs. Those with barbs are used to engage the dental pulp for its extirpation. The smooth broach is used to probe root canals. These come in various sizes.

Broadbent Bolton
Line

See *Bolton Plane*.

Broadbent Line

Line used in lateral cephalometric analysis connecting sella point with nasion.

Brux (Bruxism)

Unconscious gnashing, grinding, or clenching of the teeth, usually occurring during sleep; this condition is often associated with repressed aggression, fatigue, or emotional stress; occlusal interference may be one of the underlying etiologic factors; abnormal wear patterns on teeth, periodontal breakdown, and temporomandibular joint disturbances are the most common complaints.

Parafunctional habit in which there is continuous grinding of the teeth during the day and/or night, usually with the patient unaware of it.

Buccal

Pertaining to or adjacent to the cheek. Vertical surfaces of a tooth that comes in contact with the buccal (cheek) mucosa.



BOXING

CONCISE ILLUSTRATED DENTAL DICTIONARY

Second Edition

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bur

Browne's tube Small glass sterilizer control tube containing a red liquid which changes to green on reaching a certain temperature. This change indicates that the correct temperature has been reached, but is not proof of sterilization. The green spot tube is used in a dry heat sterilizer (q.v.), the black or yellow spot in steam sterilizers (q.v.).

bruise Discolouration of the tissues due to haemorrhage into them. A contusion.

bruxism The involuntary grinding or clenching of teeth. Often associated with stress or anxiety and frequently triggered by occlusal irregularities. Sequelae to bruxism are abnormal tooth-wear patterns, joint or neuromuscular problems and periodontal breakdown.

buccal Term denoting the surfaces of premolars and molars facing towards the cheeks. Pertaining to or adjacent to the cheeks. *B. inlay.* See skin grafting vestibuloplasty. *B. retractor.* See retractor. *B. segment classification.* Anteroposterior malrelationships of the jaws classified according to the relationship of the lower cheek teeth to the upper cheek teeth, with particular reference to the first molars. Normally the upper canine, first and second premolars interdigitate distally to the corresponding lower teeth. *B. spring.* Orthodontic wire spring working from the buccal aspect of a tooth. *B. sulcus.* Fold in the oral tissues, by mucous membrane and bounded externally by the cheeks and internally by the teeth. *B. tube.* Tube usually attached to the buccal aspect of an orthodontic appliance in the molar region, through which a wire may pass.

buccinator muscle The cheek muscle. A thin flat muscle on the side

of the face between the maxilla and the mandible.

buffer salt Chemical substance which, when present in a solution, allows only a slight change in reaction when an acid or alkali is added. Included in local analgesic solutions to maintain the acid/alkali balance compatible with blood and tissue cells.

bulbous Having the appearance of a bulb. Relating to a swelling.

BULL Buccal of upper; lingual of lower (cusps).

bullae Large vesicle or blister formed in or under the mucous membrane and containing a clear fluid.

bundle bone See bone.

bur Rotary milling tool with sharp blades of various shapes, designed to fit into handpieces. Term also used for small rotary diamond instruments. Consists of a cutting portion (the head), the shaft which attaches the bur to the handpiece and a generally tapering shank which joins the head to the shaft. Burs of various shapes and sizes are used to prepare cavities and trim restorations. They may have long smooth shanks to be used in straight handpieces, or latch type with shorter shafts. They are made of steel and some may have hardened blades made of tungsten carbide (*TC b.*). There are also smaller, smooth shaft burs which are retained in the head of high-speed handpieces by friction grip (*FG b.*). There are three main types: 1. *Fissure b.* Cylindrical or tapered with flat or rounded ends and their blades may be cross-cut, e.g. *flat fissure b.*, *X-cut fissure b.*, *round-ended fissure b.*, *tapered fissure b.* 2. *Inverted cone b.* Round or (*rosehead*) *b.* 3. In addition there are *Curson cavity* and *restoration*

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by Stanley Jablonski



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10 9 8 7 6 5 4 3 2

126 Brooke's disease / buccopharyngeal

Brooke's disease, epithelioma [Henry Ambrose Grundy Brooke, 1854-1919] cystic adenoid EPITHELIOMA.

Brophy's operation [Truman William Brophy, American oral surgeon, 1848-1928] see under OPERATION.

brow (brow) the forehead, or either lateral half of it. olympic b., the overdeveloped forehead seen in congenital syphilis.

Brown see Adson-Brown FORCEPS.

brown (brown) 1. a dusky, reddish, yellow color. 2. a dye having a dusky, reddish, yellow color. lead oxide b., LEAD DIOXIDE.

Brown, James Barrett [born 1899] a distinguished American plastic and maxillofacial surgeon.

Brown, John [Scottish physician, 1735-1788] see BRUNNIANISM.

Brown, Robert [English botanist, 1773-1858] see brownian MOVEMENT.

Brown's syndrome [Jason W. Brown] see under SYNDROME.

Brown Kelly see KELLY, Adam Brown.

Brown-Symmers disease [Charles Leonard Brown, American physician, born 1899; Douglas Symmers, American pathologist, 1879-1952] see under DISEASE.

brownian (brow'ne-an) named after Robert Brown, as brownian movement (see under MOVEMENT).

brownism (brown'izm) brunonianism.

broxuridine (brok'su-ri-den) 5-bromo-2'-deoxyuridine.

Bruce, Sir David a British bacteriologist.

Brucella (broo-sel'ah) [named after Sir David Bruce] a genus of gram-negative, aerobic bacteria of uncertain affiliation, occurring as coccobacilli or short rods (0.5 to 0.7 µm by 0.6 to 1.5 µm in size), arranged singly and in short chains. The organisms are unencapsulated, nonmotile, and nonsporogenous, and are also catalase-positive and usually oxidase-positive. They are parasitic in various warm-blooded animals, including man. *B. abortus*, a species causing brucellosis in humans and contagious abortion in cattle. Called also *Bacterium abortus* and *Bang's bacillus*. *B. bronchiseptica*, *Bordetella bronchiseptica*; see under BORDETELLA. *B. melitensis*, a species causing brucellosis, occurring primarily, although not exclusively, in goats as the reservoir of infection. Called also *Micrococcus melitensis*. *B. suis*, a species occurring in four biotypes, being usually pathogenic for swine; it also infects humans, hares, reindeer, and other animals. *B. tularensis*, *Francisella tularensis*; see under FRANCISELLA.

brucella (broo-sel-ah) an individual microorganism of the genus *Brucella*.

brucellar (broo-sel'ar) pertaining to or caused by *Brucella*.

brucellosis (broo-sel-lo'sis) infection with *Brucella abortus*, *B. melitensis*, or *B. suis*, involving primarily the reticuloendothelial system, derived from contact with infected animals. Five types of human infection have been delineated: (1) the *intermittent* type with shifting articular rheumatism, weakness, night sweating, and body temperature near normal in the morning but rising to 101 to 104°F in the evening; (2) the *ambulatory* type with symptoms similar to those of the intermittent type, but to a milder degree; (3) the *undulant* type, generally due to *B. melitensis*, characterized by steplike increases in the temperature from day-to-day to a maximum, and, after a time, gradual decrease in temperature and possibly successive repetitions of this sequence of events; (4) the *malignant* type, almost always due to *B. melitensis*, in which the temperature is high and sustained with extreme hyperpyrexia before death; and (5) the *atypical chronic* type which may take the form of muscular stiffness, gastric disturbances, and neurological symptoms. Called also *Bang's disease* and *undulant fever*.

bruise (brūz) subcutaneous accumulation of blood following a superficial injury produced by impact without laceration.

bruit (brwe, broot) [Fr.] a sound or murmur heard in auscultation, especially an abnormal one.

Brunn's membrane [Albert von Brunn, German anatomist, 1849-1895] see under MEMBRANE.

brunonianism (broo-no'ne-an-izm) [named after John Brown] the obsolete theory that all diseases are caused by excess (sthenia), or lack (asthenia) of stimulus. Called also *brownism* and *brunonian theory*. See also METHODIST (1).

brush (brush) tufts of bristles, hair, or other flexible materials set into a handle. Bass' b., Bass TOOTHBRUSH. bristle b., a cleansing and polishing instrument attached to the handpiece of the dental engine and used, with a paste, for polishing the teeth. Bristle brushes come as wheel and cup types. b. condensation, brush CONDENSATION. denture b., one for cleaning dentures, adapted to the contour of the denture. Interproximal b., inter-

proximal TOOTHBRUSH. polishing b., one consisting of a disk with natural, synthetic, or wire bristles, which may be mounted on a mandrel or a lathe; used for polishing functions in dentistry, within or outside the mouth (e.g., for dentures). tooth b., toothbrush. wire b., a polishing brush with wire bristles.

brushing (brush'ing) 1. the act of an application of a brush. 2. toothbrushing.

brush-on (brush-on) the application of resin to the prepared cavity by dipping a brush in the resin and transferring it drop-by-drop to the cavity.

bruxism (bruk'sizm) [Gr. *brychein* to gnash the teeth] an oral habit consisting of involuntary rhythmic or spasmodic nonfunctional gnashing, grinding, and clenching of the teeth in other than chewing movements of the mandible, usually performed during sleep, which may lead to occlusal trauma. It is believed to be related to repressed aggression, emotional tension, anger, and fear, with frustration being its principal cause. Occlusal interferences are considered to be a major etiologic factor. Increased tonus of the jaw muscles is a constant feature. Malocclusion, periodontal injury, crown damage, headache, temporomandibular joint disorders, and pain are the most common complications. Bruxism occurring in the daytime is called *bruxomania*. Called also *Karolyi effect*, *occlusal habit neurosis*, *odontopristis*, *neuralgia traumatica*, *parafunction*, and *stridor dentium*. See also occlusal TRAUMA. centric b., that characterized by clenching in centric occlusion. Called also *clamping habit* and *habitual clenching*. eccentric b., that characterized by nonfunctional gnashing and grinding in eccentric excursions. Called also *habitual grinding*, *nonfunctional grinding*, *gnashing habit*, and *grinding habit*.

bruxomania (bruk'so-ma'ne-ah) [Gr. *brychein* + *mania*] bruxism occurring in the daytime, usually performed with the individual being unaware of it. See BRUXISM.

BTU British thermal UNIT.

Bu butyl.

bubo (bu'bo) [L. from Gr. *boubon* groin] the inflammatory swelling of a lymphatic gland, particularly of the axilla or groin.

climatic b., **Frei's b.**, **tropical b.**, **LYMPHOGANULOMA venereum**.

bucca (buk'ah) [L.] [NA] the fleshy portion of the side of the face; the cheek. Called also *mala* [NA alternative]. b. ca'vi o'ris [NA], the fleshy portion of the side of the oral cavity, which is continuous with the commissure of the lips. Called also *cheek*.

buccal (buk'al) [L. *buccalis*, from *bucca* cheek] pertaining to the cheek; genal. In dental anatomy, the term is used to refer to the vestibular (or oral) surface of the premolars and molars that faces the cheek. Cf. LINGUAL. See illustration at SURFACE.

buccinator (buk'si-na'tor) [L. "trumpeter"] buccinator MUSCLE.

bucco- [L. *bucca* cheek] a combining form denoting relationship to the cheek.

buccoaxial (buk'ko-ak'se-al) [*bucco* + *axial*] pertaining to or formed by the buccal and axial walls of a tooth cavity preparation.

buccoaxiocervical (buk'ko-ak'se-o-ser'vi-kal) [*bucco* + *axio-* + *cervical*] buccoaxiogingival.

buccoaxiogingival (buk'ko-ak'se-o-jin'ji-val) [*bucco* + *axio-* + *gingival*] pertaining to or formed by the buccal, axial, and gingival walls of a tooth cavity. Called also *buccoaxiocervical*.

buccocervical (buk'ko-ser'vi-kal) [*bucco* + *cervical*] 1. pertaining to the cheek and neck. 2. pertaining to the buccal surface of the neck of a tooth. 3. buccogingival.

buccoocclusal (buk'ko-kloo'sal) 1. pertaining to buccoclusion. 2. bucco-occlusal.

buccoclusion (buk'ko-kloo'zhun) malocclusion in which the dental arch or a group of teeth is buccal to the normal position.

buccodistal (buk'ko-dis'tal) distobuccal.

buccogingival (buk'ko-jin'ji-val) [*bucco* + *gingival*] 1. pertaining to the cheek and gingiva. 2. pertaining to or formed by the buccal and gingival walls of a tooth cavity preparation.

buccoglossopharyngitis (buk'ko-glos'o-far'in-ji'tis) inflammation involving the cheek, tongue, and pharynx. b. sic'ca, inflammation and dryness of the buccal mucosa, tongue, and pharynx. See also Sjögren's SYNDROME.

buccolabial (buk'ko-la'be-al) pertaining to the cheek and lip.

buccomaxillary (buk'ko-mak'si-le'e) 1. pertaining to the cheek and maxilla. 2. communicating with the buccal cavity and the maxillary sinus, as a buccomaxillary fistula.

buccomesial (buk'ko-me'ze-al) mesiobuccal.

bucco-occlusal (buk'ko-o-kloo'zal) pertaining or formed by the buccal and occlusal surfaces of a tooth. Written also *buccoclusal*.

buccopharyngeal (buk'ko-fah-rin'je-al) [*bucco* + *pharyngeal*] pertaining to the mouth and pharynx.

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Glossary of Endodontic Terms

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Preface

The 2003 edition of the *Glossary of Endodontic Terms* represents the seventh major assessment and revision of the uniquely distinct scientific language of endodontics. The Association frequently reviews the terms in its *Glossary* because of the continuous introduction of new endodontic concepts, materials and techniques.

The American Association of Endodontists re-examined both current terminology in the sixth edition of the *Glossary* and new terms from the perspective of contemporary use and applicability to endodontics and endodontists. The Association carefully considered the rationale for the inclusion of each entry in the *Glossary* and supported each term with appropriate definitions based on the art and science of endodontics. The definitions reflect use in current textbooks and, when possible, the terminology used in other dental specialty areas.

The Association made every effort to ensure that the definitions used in the *Glossary* correspond to those used in the AAE's *Guide to Clinical Endodontics*. The *Guide* reflects current practice considerations in endodontics that enhance the patient's quality of care.

—Ad Hoc Committee to Revise the *Glossary: Contemporary Terms in Endodontics*

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Main entries appear in boldface type and are set flush with the left-hand margin of each column of type. Main entries follow one another in alphabetical order. Material in lightface type following a main entry presents information about that entry.

Subentries appear in boldface type indented slightly from the left-hand margin of each column. Subentries appear in alphabetical order under the main entry to which they apply. Material in lightface type following a subentry presents information about that entry and is also indented slightly from the left margin.

Synonyms appear in lightface type in parenthesis following the main or subentry to which they apply. Synonyms appear in alphabetical order.

Historical synonyms that are no longer commonly used but may be encountered in the endodontic literature are listed in italics following the lightface information about the entry to which they apply and are set off by an italicized "HS:".

Cross references All subentries, synonyms and historical synonyms appear alphabetically as cross references in the main entry listing.

B

walking bleach—A form of intracoronal bleaching in which oxidizing agents are sealed into the pulp chamber for a limited period of time, usually a few days to one week; procedure may be repeated until the desired result is obtained.

blunderbuss canal—

See canal, pulp—blunderbuss canal.

bonding—Procedure of using an adhesive, cementing material or fusible ingredient to combine, unite or strengthen.

bone regeneration—Neoformation of osseous tissue that may occur either within an osseous structure or on its surface.

bony crypt—Osseous cavity made or modified in bone during periradicular surgery.

braiding technique—Placement and subsequent wrapping of multiple files around an object in the root canal to aid in its removal.

broach, endodontic—A thin, flexible, fragile, usually tapered and pointed metal hand instrument with sharp projections curving backward and obliquely; primarily used to remove pulp tissue or other easily engaged materials from the canal.

bruxism—An oral habit consisting of involuntary rhythmic or spasmodic nonfunctional grinding or clenching of teeth.

buccal object rule—A method for determining the relative location of objects that are superimposed on the traditional radiograph.

Rule: When two different radiographs are made of a pair of objects, the image of the buccal object moves, relative to the image of the lingual object, in the opposite direction from which the x-ray beam is directed.

HS: Clarks Rule; Clark's Shift; horizontal or vertical shift; MBD Rule; SLOB Rule; tube shift; and Walton's Projection.

buttressing bone—A marginal linear deposition of bone that may be formed in response to heavy occlusal forces.

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Brunnstrom

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buccal

trunk movement. Six categories or levels of recovery of a neurologically impaired patient. SEE ALSO proprioceptive neuromuscular facilitation.

Brunnstrom movement therapy (brun-ström müv'mént thär'a-pé) A treatment approach in which the physical therapist or occupational therapist uses movement based on synergy patterns of the limb and trunk; consists of six categories or levels of recovery in the neurologically impaired patient.

Bruns nys-tag-mus (brunz nī-stag'mūs) A fine, jerking (vestibular) nystagmus on horizontal gaze in one direction, together with a slower, larger amplitude (gaze, parietic) nystagmus on looking in the opposite direction; due to lateral brainstem compression, usually by a cerebellar-pontine angle mass such as an acoustic neuroma.

brush (brūsh) An instrument consisting of flexible bristles attached to a handle or to the tip of a catheter. [A.S. *byrst*, bristle]

brush bi-op-sy (brūsh bī'op-sē) Obtained by abrading the surface of a lesion with a brush to obtain cells and tissue for microscopic examination.

brush bor-der (brūsh bōr'dēr) An epithelial surface bearing closely packed microvilli about 2 µm long, such as occurs in the proximal tubule of the nephron.

brush cath-e-ter (brūsh kath'ē-tēr) A ureteral catheter with a finely bristled brush tip that is endoscopically passed into the ureter or renal pelvis and by gentle to-and-fro movement brushes cells from the surface of suspected tumors.

Brush-field spots (brush'fēld spōtz) Light-colored condensations of the surface of the mid-iris; seen in Down syndrome.

Bru-ton a-gam-ma-glob-u-li-ne-mi-a (brū-ton ā-gam-ma-glob'yū-līn-ē-mē-ā) An X-linked condition, with hypo- or agammaglobulinemia; the immune deficiency becomes apparent as maternally transmitted immunoglobulin levels decline in early infancy.

brux-ism (brūk'sizm) A clenching of the teeth, associated with forceful lateral or protrusive jaw movements, resulting in rubbing, gritting, or grinding together of the teeth, usually during sleep; sometimes a pathologic condition. SEE ALSO parafunction. [G. *bruchō*, to grind the teeth]

Bryant line (brī'ant līn) Vertical border of the iliofemoral triangle.

Bryant sign (brī'ant sīn) Lowering of axillary skin folds; seen in association with dislocation of shoulder.

Bry-ant trac-tion (brī'ant trak'shūn) Traction on the lower limb placed vertically, employed especially in fractures of the femur in children.

Bry-ant tri-an-gle (brī'ant tri-ang'gel) In fracture of the neck of the femur, to determine upward displacement of the trochanter, lines are drawn on the body to form a triangle: line *a* is drawn around the body at the level of the anterior superior iliac spines; line *b*, perpendicular to line *a*, is drawn to the greater trochanter of the femur; line *c* is drawn from the trochanter to the iliac spine; upward displacement is measured along line *b*. SYN iliofemoral triangle.

BSA Abbreviation for bovine serum albumin; body surface area.

BSE Abbreviation for breast self-examination.

BSER Abbreviation for brainstem evoked response. SEE brainstem evoked response audiometry.

BSN Abbreviation for Bachelor of Science degree in Nursing.

BTPS Abbreviation that indicates a gas volume has been expressed as if it were saturated with water vapor at body temperature (37°C) and at the ambient barometric pressure; used for measurements of lung volumes.

BTU Abbreviation for British thermal unit.

bu-ba mad-re (bū'bā mah'dre) SYN *mother* yaw.

bu-bas (bū'bahs) SYN *yaws*.

bub-ble gum der-ma-ti-tis (būb'el gūm dēr-mā-tī'tis) Allergic contact dermatitis developing about the lips in children who chew bubble gum; caused by plastics in the gum.

bubble-through hu-mid-i-fi-er (būb'el-thrū hyū-mid'i-fī-ēr) A device that humidifies therapeutic gas (e.g., oxygen) by bubbling the gas through water.

bu-bo (bū'bō) Inflammatory swelling of one or more lymph nodes, usually in the groin; associated with disease usually treated with antibiotics and moist heat, incision and drainage are sometimes required. [G. *boubōn*, the groin, a swelling in the groin]

bu-bon-al-gia (bū'bon-al'jē-ā) Rarely used term for pain in the groin. [G. *boubōn*, groin, + *algos*, pain]

bu-bon-ic (bū'bon'ik) Relating in any way to a bubo.

bu-bon-ic plague (bū'bon'ik plāg) The usual form of the disease marked by inflammatory enlargement of the lymphatic glands in the groins, axillae, or other parts. Clinical manifestations are caused by the flea-transmitted *Yersinia pestis*.

buc-ca, gen. and pl. **buc-cae** (būk'ā, būk'sē) SYN *cheek*. [L.]

buc-cal (būk'āl) Pertaining to, adjacent to, or in the direction of the cheek.

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Bruininks-Oseretsky Test of Motor Proficiency

301

bubonadenitis

Bruininks-Oseretsky Test of Motor Proficiency ABBR: BOTMP. A standardized test of gross and fine motor performance for children from 4 to 14 years of age.

bruise (brooz) [O. Fr. *bruiser*, to break] A traumatic injury (usually to the skin but sometimes to internal organs) in which blood vessels are broken but tissue surfaces remain intact. Discoloration, swelling, inflammation, and pain are typical signs and symptoms. Fresh bruises on the skin are usually red or purple. Older bruises turn green and then yellow or brown, as the blood products within them age and are resorbed. SYN: *ecchymosis*.

FIRST AID: Cold applications are needed first, followed by application of a firm bandage to prevent swelling. Twenty-four to 48 hr later, application of heat is desirable, followed by gentle massage.

b. of head, chest, and abdomen A bruise that may be associated with internal injuries. SEE: *ecchymosis*.

SYMPTOMS: Symptoms include pain, swelling, tenderness, and discoloration.

PATIENT CARE: Historical data are collected regarding the exact cause and location of the injury. The bruised area is inspected, and the location, color, size, discomfort, and other pertinent characteristics are documented. The patient is assessed for other injuries dependent on the specific location and severity of the original injury. Related skin abrasions are cleansed thoroughly. Neurological status (AVPU) is monitored hourly or as needed for any patient with a suspected head injury.

stone b. Bruise of the bottom of the foot, usually seen in children who walk barefoot on stones.

bruissement (broo-ès-môn') [Fr., droning noise] A purring sound heard upon auscultation.

bruit (brwä, broot) [Fr., noise] An adventitious sound of venous or arterial origin heard on auscultation.

carotid b. SEE: *carotid bruit*.

placental b. Placental souffle.

Brunner's glands (brün'érz) [Johann C. Brunner, Swiss anatomist, 1653-1727] Compound glands of the duodenum and upper jejunum that are similar to the pyloric glands of the stomach. They are embedded in the submucosa and lined with columnar epithelium. Their secretion is alkaline to help neutralize the hydrochloric acid entering the duodenum from the stomach. SYN: *duodenal glands*.

brush A tool with bristles on its end designed to remove debris or damaged cells from a body part.

Brushfield spots (brüş'föld) (T. Brushfield, Brit. physician, 1858-1937) Gray or pale yellow spots sometimes present at the periphery of the iris. They may be

an isolated finding but are sometimes found in Down's syndrome.

brushing (brüş'ing) 1. A technique of tactile stimulation using small, electrically rotated brushes over selected dermatomes to elicit muscular responses in the rehabilitation of persons with central nervous system damage. 2. Cleaning with a brush, as in toothbrushing. 3. A specimen obtained by rubbing a body part with a brush. The tissue or cells obtained are examined microscopically for evidence of cancer or other diseases.

bruxism (brük'sizm) [Gr. *brychein*, to grind the teeth, + *-ismos*, condition] The grinding of the teeth, esp. in children, during sleep. If untreated, it can damage teeth and the temporomandibular joint. In severe cases the teeth are worn down due to attrition.

ETIOLOGY: Psychological stress or abnormalities of tooth occlusion are the principal causes.

TREATMENT: If the condition is due to psychological causes, tension, anxiety, and stress should be reduced. The teeth should be treated for caries, malocclusion, or periodontal disease. Occlusal guards for the teeth may be of benefit. SYN: *oromandibular sleep movement disorder*.

Bryant's traction [Sir Thomas Bryant, Brit. surgeon, 1828-1914] Traction applied to the lower legs with the force pulling vertically. It is used esp. in treating fractures of the femur in children.

B.S. Bachelor of Science; Bachelor of Surgery; bowel sounds.

BSE 1. Breast self-examination. 2. Bovine spongiform encephalopathy.

BSI Body substance isolation.

B.S.N. Bachelor of Science in Nursing. The individual who earns this degree may apply to take the registered nurse (R.N.) licensing examination.

BSP Bromsulphalein.

BTPS body temperature and pressure (saturated with water vapor).

BTU British thermal unit.

bubo (boo'bō) pl. *buboes* [Gr. *boubon*, groin, swollen gland] An inflamed, swollen, or enlarged lymph node often exhibiting suppuration, occurring commonly after infective disease due to absorption of infective material. The nodes most commonly affected are those of the groin and axilla.

axillary b. A bubo in the armpit.

indolent b. A bubo in which suppuration does not occur.

inguinal b. A bubo in the region of the groin. SYN: *buboadenitis*.

venereal b. A bubo resulting from a venereal disease. SEE: *lymphogranuloma venereum*.

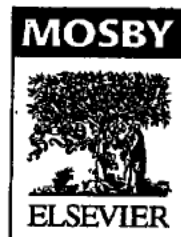
bubonadenitis (boo-bōn-äd-ē-nī'tis) ["

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outlet, a cesarean section may be recommended. However, the fetus usually converts to a face presentation.

Brucella abortus. See **abortus fever.**

brucellosis /brōō'sələ'sis/ [David Bruce, English pathologist, 1855-1931], a disease caused by any of several species of the gram-negative coccobacillus *Brucella*. Brucellosis is most prevalent in rural areas among farmers, veterinarians, meat packers, slaughterhouse workers, and livestock producers. Laboratory workers are also at risk. It is primarily a disease of animals (including cattle, pigs, sheep, camels, goats, and dogs); humans usually acquire it by ingestion of contaminated milk or milk products or raw meat or marrow, through a break in the skin, contact with an infected animal or through inhalation of dust from contaminated soil. It is characterized by fever, chills, sweating, malaise, and weakness. The fever often occurs in waves, rising in the evening and subsiding during the day, at intervals separated by periods of remission. Other signs and symptoms may include anorexia and weight loss, headache, muscle and joint pain, and an enlarged spleen, and orchiepididymitis in young men. In some victims the disease is acute; more often it is chronic, recurring over a period of months or years. Although brucellosis itself is rarely fatal, treatment is important because serious complications such as pneumonia, endocarditis, meningitis, and encephalitis can develop. Tetracycline plus streptomycin is the treatment of choice; bed rest is also important. A vaccine is available outside the United States. This organism is considered a potential agent of bioterrorism due to its low infectious dose (10-100 organisms) and method of infection by way of aerosol, allowing distribution over a large area. Also called **Cyprus fever**, **dust fever**, **Gibraltar fever**, **Malta fever**, **Mediterranean fever**, **rock fever**, **undulant fever**. See also **abortus fever**.

Bruch's disease. See **Marseilles fever.**

Brudzinski's sign /brōōdzin'skēz/ [Josef Brudzinski, Polish physician, 1874-1917], an involuntary flexion of the arm, hip, and knee when the neck is passively flexed. It occurs in patients with meningitis.



Elicitation of Brudzinski's sign (Barkauskas, Baumann, Darling-Fisher, 2002)

Brueghel's syndrome. See **Meige's syndrome** (def. 1).
Brugia /bruj'ə/ [S.L. Brug, Dutch parasitologist in Indonesia, 1879-1946], a genus of nematodes of the superfamily Filarioidea that parasitize humans and other mammals. See also **filariasis**.

bruise. See **contusion**, **ecchymosis**.

bruit /brōō'e/ [Fr, noise], an abnormal blowing or swishing sound or murmur heard while auscultating a carotid artery,

organ, or gland, such as the liver or thyroid, and resulting from blood flowing through a narrow or partially occluded artery. The specific character of the bruit, its location, and the time of its occurrence in a cycle of other sounds are all of diagnostic importance.

Brunstrom hemiplegia classification, an evaluation procedure that assesses muscle tone and voluntary control of movement patterns in a stroke patient. Results indicate the patient's progress through stages of recovery.

brush biopsy, the use of a catheter with bristles that is inserted into the body to collect cells from tissues.

brush border, microvilli on the free surfaces of certain epithelial cells, particularly the absorptive surfaces of the intestine and the proximal convoluted tubules of the kidney.

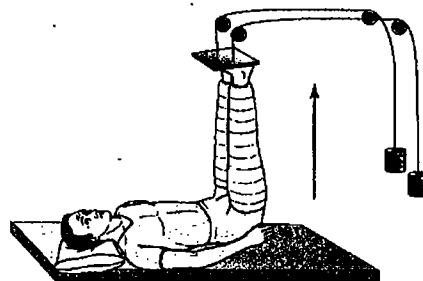
Brushfield's spots [Thomas Brushfield, English physician, 1858-1937; ME, *spotte*, stain], pinpoint white or light yellow spots on the iris of a child with Down syndrome. Occasionally, they are seen in normal infants.

Brunton's agammaglobulinemia [Ogden C. Bruton, American physician, b. 1908], a sex-linked, inherited condition characterized by the absence of gamma globulin in the blood. Those (usually children) affected by the syndrome are deficient in antibodies and susceptible to repeated infections. Compare **agammaglobulinemia**.

bruxism /bruk'sizəm/ [Gk, *brychein*, to gnash the teeth], the compulsive, unconscious grinding or clenching of the teeth, especially during sleep or as a mechanism for releasing tension during periods of extreme stress in the waking hours. Also called **bruxomania**.

bruxomania. See **bruxism**.

bry-, prefix meaning "tree moss": *bryocyte*, *bryocytele*.
Bryant's traction [Thomas Bryant, English physician, 1828-1914; L, *trahere*, to pull], an orthopedic mechanism used to immobilize both lower extremities in the treatment of a fractured femur or in the correction of a congenital hip dislocation. The mechanism consists of a traction frame supporting weights, which are connected by ropes that run through pulleys to traction foot plates. The traction pull elevates the lower extremities to a vertical position with the patient supine, the trunk and the lower extremities forming a right angle. The weight applied to the traction mechanism is usually less than 35 pounds. Compare **Buck's traction**.



Bryant's traction (Lewis, Heitkemper, and Dirksen, 2000)

BSA, 1. abbreviation for **body surface area**. See **surface area**. 2. abbreviation for **bovine serum albumin**.

BSE, 1. abbreviation for **breast self-examination**. See **self-breast examination**. 2. Abbreviation for **bovine spongiform encephalopathy**.

The Sloane-Dorland Annotated Medical-Legal Dictionary

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... she underwent bronchoscopy and a bronchogram. These tests disclosed that the entire lower lobe and middle lobe of her right lung were essentially completely destroyed by bronchiectatic disease. *Black v. Richardson*, 356 F.Supp. 861, 866 [D.S.Car.1973].

A bronchoscopy report indicates a tumor mass displacing the lower trachea, corona, and left main bronchial branch downward and to the right. Smith left the hospital on November 11, with a final diagnosis of bronchogenic carcinoma of the left lung, and it was recommended that he return in ten days for exploratory surgery. *Petition of U.S.*, 303 F.Supp. 1282, 1310 [E.D.N.Car.1969].

Other Authorities: *ZeBarth v. Swedish Hospital Medical Center*, 499 P.2d 1, 4 (Wash.1972); *McKay v. Bankers Life Co.*, 187 N.W.2d 736-7 (Iowa 1971).

bronchospasm (brong'ko-spazm) spasmodic contraction of the smooth muscle of the bronchi, as occurs in asthma.

When the smooth type muscles encircling the bronchial tubes constrict, they close down the tubes so that less and less air passes through them. This constriction of the bronchial tubes is known as bronchial spasm or bronchospasm. During a severe bronchial spasm there is a complete closing of the bronchial tubes, blocking any air from reaching the lungs. A bronchial spasm is part and parcel of an asthmatic attack. *Siegel v. Mt. Sinai Hospital of Cleveland*, 403 N.E.2d 202, 204-5 [Ct.App. Ohio 1978].

The anesthesiologist's report stated that Smith had experienced a "broncho spasm" which, Di Maio explained, could have blocked the air passage making it impossible for the anesthesiologist to ventilate the patient. The surgeons' report on the other hand stated that when they noticed the patient's color change they asked the anesthesiologist about the status of the patient, [and] he said he had difficulty ventilating the patient....

... If the anesthesiologist is correct, and I have to assume so, there was a bronchial spasm, the diaphragm couldn't move because he couldn't get the air beyond the obstruction. *People v. Stewart*, 358 N.E.2d 487, 490 (N.Y.1976).

Dr. Martin J. Sokoloff testified on Cuevas' behalf that he was suffering from severe chemical bronchitis with marked bronchospasm. He testified that this condition rendered Cuevas totally disabled and unable to pursue gainful employment which required physical exertion. *Cuevas v. Platers & Coaters, Inc.*, 346 A.2d 6, 7 [Pa.1975].

bronchus (brong'kus), pl. *bron'chi* [L.; Gr. *bronchos* wind-pipe] any of the larger air passages of the lungs, having an outer fibrous coat with irregularly placed plates of hyaline cartilage, an interlacing network of smooth muscle, and a mucous membrane of columnar ciliated epithelial cells.

Dr. Norton, the examining physician, referred Smith to Dr. Williams, a thoracic surgeon, who noted the progressive consolidation and retraction of the left upper lobe, probably occasioned by the tumor compressing the bronchus "rather than being related to the accident two months previous." *Petition of U.S.*, 303 F.Supp. 1282, 1310 [E.D.N.Car.1969].

"Brown Lung" disease See *byssinosis*.

Brucella (broo-sel'lah) [Sir David Bruce] a genus of microorganisms of the family Brucellaceae, order Eubacteriales, made up of nonmotile short, rod-shaped to coccoid, gram-negative encapsulated cells. It includes three species which may be differentiated on the basis of (1) the relative content of two antigens, A and M, (2) sensitivity to thionine and basic fuchsin, (3) production of hydrogen sulfide, and (4) the requirement for carbon dioxide on primary isolation.

... brucella produces brucellosis... U.S. v. City of Asbury Park, 340 F.Supp. 555, 566 [D.N.J.1972].

brucellosis (broo"sel-lo'sis) a generalized infection of man involving primarily the reticuloendothelial system, caused by species of *Brucella*, namely, *B. melitensis*, *B. abortus*, *B. suis*, and *B. canis*, derived from contact respectively with goats, cattle, pigs, and dogs. Its incubation is an average of three weeks, and symptoms include fever of varying pattern, malaise, and headache. It has been variously called undulant fever, abortus fever, Malta or Maltese fever, Mediterranean fever or phthisis, Cyprus fever, goat fever, goat's milk fever, Gibraltar fever, mountain fever, Neapolitan fever, rock fever, febris melitensis, febris sudoralis, febris undulans, fièvre caprine, Bruce's septicemia, brucellemia, brucelliastis, melitensis septicemia, and melitensis.

Bruce-Protocol See *protocol, stress test*.

bruit (brwe, broot) [Fr.] a sound or murmur heard in auscultation, especially an abnormal one.

The examination further revealed a bruit which indicates blood going through a compressed artery, over the left collarbone when Cress' arm was elevated. *Cress v. Mayer*, 626 S.W.2d 430, 432-3 [Ct.App.Mo.1981].

bruxism (bruk'sizm) [Gr. *brychein* to gnash the teeth] rhythmic or spasmodic grinding of the teeth in other than chewing movements of the mandible, especially such movements performed during sleep. Dental malocclusion and tension-release factors are the usual inciting causes. Cf. *bruxomania* and *clenching*.

Plaintiff complained to him that defendant had ground off an excessive amount of her upper left lateral incisor (No. 10). His examination revealed that most of plaintiff's teeth exhibited excessive wear. Such wear is usually the result of bruxism, i.e., the unconscious grinding or clenching of the teeth, usually done while sleeping. He attributed plaintiff's wear and fractured enamel to bruxism. Also, plaintiff stated to him that she bit her fingernails; that can result in wear on the teeth. Normal chewing results in a force on the teeth of between 2 to 12 pounds per square inch. On the other hand, bruxism can result in a force of over 300 pounds per square inch. *Sullivan v. Russell*, 338 N.W.2d 181, 185 [Mich.1983].

bruxomania (bruk"so-ma'ne-ah) grinding of the teeth occurring as a tension-release habit in the waking state; called also *brychomania*. Cf. *bruxism*.

Bryant's traction See *line, Bryant's*.

buccal (buk'al) [L. *buccalis*, from *bucca* cheek] pertaining to or directed toward the cheek.

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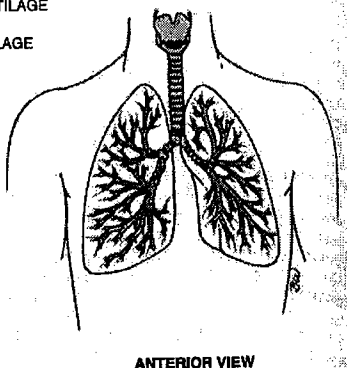
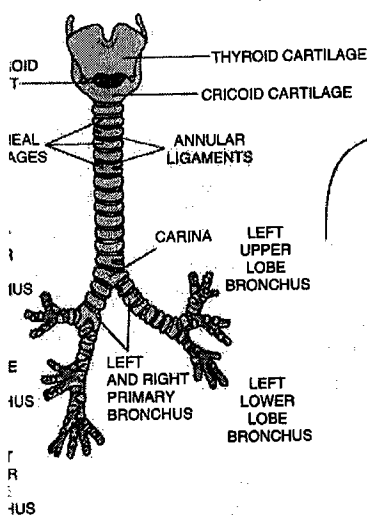
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TRACHEA AND BRONCHI



and *B. suis* cause brucellosis in swine, respectively, and *B. melitensis* causes contagious abortion in cats and other domestic animals. The parasite is an intracellular parasite. In humans it is called brucellosis or Malta fever and is caused by any of the three

TREATMENT: In adult humans, treatment consists of combined tetracycline for 4 weeks and streptomycin for the first 2 weeks of the tetracycline therapy. Doxycycline is also effective. In children, tetracycline may cause staining of developing teeth.

membrane (brooks) [Karl W.L. Bruck, Ger. anatomist, 1819-1884] A membrane of the uvea of the eye, between the choroid membrane and the retina. *membrana basalis choroideae; vitreous*

sease (brooks) [Alfred Bruck, Ger. anatomist, b. 1865] A rare disease marked by atrophy and skeletal disorders, multiple fractures and ankyloses. **sign** [József Brudzinski, Polish anatomist, 1874-1917] Flexion of the hips and neck is flexed from a supine position occurs in children with meningitis. **SEE: Kernig's sign; meningitis.**

-Oseretsky Test of Motor Proficiency [BOTMP]. A standardized gross and fine motor performance test from 4 to 14 years of age. **test** [O. Fr. *bruiser*, to break] An

with diffuse effusion into subcuta-

neous tissue and in which skin is discolored but not broken. **SYN: contusion.**

b. of head, chest, and abdomen A bruise that may be associated with internal injuries. **SEE: ecchymosis.**

SYMPTOMS: Symptoms include pain, swelling, tenderness, and discoloration.

NURSING IMPLICATIONS: Historical data are collected regarding the exact cause and location of the injury. The nurse inspects the bruised area and documents the location, color, size, discomfort, and other pertinent characteristics. The patient is assessed for other injuries dependent on the specific location and severity of the original injury. Related skin abrasions are cleansed thoroughly. Neurological status is monitored hourly or as needed for any patient with a suspected head injury.

stone b. Bruise of the bottom of the foot, usually seen in children who walk barefoot on stones.

bruissement (broo-ēs-mōn') [Fr., droning noise] A purring sound heard upon auscultation.

bruit (brwē, broot') [Fr., noise] An adventitious sound of venous or arterial origin heard on auscultation.

carotid b. **SEE: carotid bruit.**

placental b. A purring or blowing noise originating in the pregnant uterus due to fetal circulation of blood. It is synchronous with the maternal pulse.

Brunner's glands (brün'ērz) [Johann C. Brunner, Swiss anatomist, 1653-1727] Compound glands of the duodenum and

Brushfield spots

upper jejunum that are similar to the pyloric glands of the stomach. They are embedded in the submucous tissue and lined with columnar epithelium. They secrete a clear, alkaline mucinous solution. **SYN: duodenal glands.**

Brushfield spots [T. Brushfield, Brit. physician, 1858-1937] Gray or pale yellow spots sometimes present at the periphery of the iris of children with Down syndrome.

brushing 1. A technique of tactile stimulation using small, electrically rotated brushes over selected dermatomes to elicit muscular responses in the rehabilitation of persons with central nervous system damage. 2. Cleaning with a brush, as in toothbrushing.

bruxism (brük'sizm) [Gr. *brychein*, to grind the teeth, + *-ismos*, condition] The grinding of the teeth, esp. in children, during sleep. If untreated, it can damage teeth and the temporomandibular joint. In severe cases the teeth are worn down due to attrition.

ETIOLOGY: Psychological stress or abnormalities of tooth occlusion are the principal causes.

TREATMENT: If the condition is due to psychological causes, tension, anxiety, and stress should be reduced. The teeth should be treated for caries, malocclusion, or periodontal disease. Occlusal guards for the teeth may be of benefit.

Bryant's traction [Sir Thomas Bryant, Brit. surgeon, 1828-1914] Traction applied to the lower legs with the force pulling vertically. It is used esp. in treating fractures of the femur in children.

B.S., Bachelor of Science; Bachelor of Surgery.

BSE breast self-examination.

B.S.N Bachelor of Science in Nursing. The individual who earns this degree may apply to take the registered nurse (R.N.) licensing examination.

BSP Bromsulphalein.

BTE work simulator [Trademark, Baltimore Therapeutic Equipment Company] A mechanical device with interchangeable handles that simulates the work demands of many jobs and can objectively measure the work output of the user. This device is widely used in rehabilitation settings where injured workers are trained for return to employment.

BTPS body temperature and pressure (saturated with water vapor).

BTU British thermal unit.

bubo (boo'bō) **pl. buboes** [Gr. *boubon*, groin, swollen gland] An inflamed, swollen, or enlarged lymph node often exhibiting suppuration, occurring commonly after infective disease due to absorption of infective material. The nodes most commonly affected are those of the groin and axilla.

axillary b. A bubo in the armpit.

indolent b. A bubo in which suppura-

tion does not occur.

inguinal b. A bubo in the region of the groin.

venereal b. A bubo resulting from a venereal disease. **SEE: lymphogranuloma venereum.**

bubonadenitis (boo-bōn-ād-ē-nī'tis) [*bubon*, gland, + *adenitis*, inflammation] Inflammation of an inguinal gland.

bubonic plague [*bubon*, stroke, wound] An acute, infectious disease associated with a high fatality rate; called the black death in the Middle Ages. **SEE: plague.**

ETIOLOGY: Bubonic plague is caused by *Yersinia pestis*, which is usually present in infected rats and ground squirrels, and is transmitted to humans by the bite of the rat flea. It is marked by enlarged lymph glands and severe toxic symptoms, accompanied by intense adenitis or pneumonia.

bucca (bük'ä) **pl. buccae** [L., cheek] The cheek.

buccal (bük'äl) Relating to the cheek or mouth.

b. fat pad An encapsulated mass of fat lying superficial to the buccinator muscle. It is well developed in infants and is thought to aid in the act of sucking. **SYN: sucking pad.**

buccinatorlabialis (bük'sin-ä-tō-lä'bē-ä'lis) [*L. buccinator*, trumpeter, + *labialis*, pert. to the lips] The buccinator and orbicularis oris considered as a single muscle.

buccinator (bük'sin-ä-tor) The muscle of the cheek. **SEE: Muscles Appendix.**

bucco- [L. *bucca*, mouth] Combining form meaning cheek.

buccoaxiocervical (bük'kō-äk'sē-ō-sēr-vi-käl) The angle formed by the intersection of the buccal, axial, and cervical walls of a cavity in a tooth.

buccocervical (bük'kō-sēr-vi-käl) Concerning the buccal surface and cervical margin of a tooth.

buccodistal (bük'kō-dīs'täl) Concerning the buccal and distal surfaces of a tooth.

buccogingival (bük'kō-jin'ji-väl) Concerning the buccal and gingival surfaces of a tooth.

buccolabial (bük'kō-lä'bē-äl) Concerning the buccal and labial surfaces of a tooth.

buccolingual (bük'kō-ling'gwäl) Concerning the buccal and lingual surfaces of a tooth.

buccomesial (bük'kō-mē-zē-äl) Concerning the buccal and mesial surfaces of a tooth.

bucco-occlusal (bük'kō-ō-kloo'säl) Concerning the buccal and occlusal surfaces of a tooth.

buccopharyngeal (bük'kō-fä-rin'jē-äl) Concerning the mouth and pharynx.

buccopulpal (bük'kō-pül'päl) Concerning the buccal and pulpal surfaces of a tooth.

buccoversion (bük'kō-vēr-zhūn) [*L. bucca*, cheek, + *versio*, turning] A tooth that twists in a buccal direction.